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SPECIAL ISSUE

Emerging-Market Finance

GUEST EDITOR

Kate Phylaktis

Emerging-Markets Finance: Overview of the special issue
Kate Phylaktis (Cass Business School)

Financial Crises

1. "*Chronicle of Currency Collapses: Re-examining the Effects on Output*" Matthieu Bussière (Banque de France), Sweta C. Saxena (IMF), Camilo E. Tovar (BIS)
2. "*The Effect of IMF Lending on the Probability of Sovereign Debt Crises*" Markus Jorra (Justus Liebig University Giessen)
3. "*How Costly are Debt Crises?*" Davide Furceri (IMF), Aleksandra Zdzienicka (CEPII)
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Financial Markets

5. "*Crossing the Lines: The Conditional Relation between Exchange Rate Exposure and Stock Returns in Emerging and Developed Markets*" Sohnke Bartram (Lancaster University and SSGA), Gordon M. Bodnar (Johns Hopkins University)
6. "*What Determines Mutual Fund Trading in Foreign Stocks?*" Vincentu Covrig (California State University), Kalok Chan (Hong Kong University of Science and Technology)

Foreign Exchange

7. *"Country and Time-Variation in Import Exchange Rate Pass-Through: Is it Driven by Macro and Micro Factors?"* Raphael Brun-Aguerre (JP Morgan) Ana-Maria Fuertes (Cass Business School), Kate Phylaktis (Cass Business School)

8. *"Foreign Exchange Market Reactions and Sovereign Credit News"* Rasha Alsakka (Bangor Business School), Owain ap Gwilym (Bangor Business School)

9 *"For Rich or for Poor: When Does Uncovered Interest Parity Hold?"* Michael M. Moore (Queen's University, Belfast), Maurice Roche (Ryerson University)

Finance and Growth

10. *"Financial Development, Government Ownership of Banks and Firm Innovation"* Sheng Xiao (University of Minnesota), Shan Zhao (Shanghai University of Finance and Economics)

Guest Editorial

**Emerging-Markets Finance:
Overview of the special issue**

1. Introduction

The increasing importance of emerging economies in the world economy has given rise to profitable investment opportunities and has spurred academic interest to investigate the pricing of assets in those economies and the impact of the institutional and regulatory environment on the dynamics of raising capital and the behaviour of the real economy.

Contributing to the understanding of these issues in emerging economies has been the motivation of the third International Conference on “Emerging-Markets Finance” at Cass Business School in London, which was organized by the Emerging-Markets Group (EMG) in May 2011. One hundred and fifty papers were submitted to the conference, ten of which have been selected to be included in this Special Issue following the usual refereeing process. The selected papers cover four main areas: financial crises, financial markets, foreign exchange, and the relationship between finance and growth. The topic financial crises, however, permeates a number of the papers, even if it is not the main topic examined. The financial crisis of 2007-2009 has arguably been the major global crisis since the great depression of 1929-32. While initially the crisis had its origin in the US in a relatively small segment of the lending market, the sub-prime mortgage market, it rapidly spread across economies, both advanced and emerging. As a result, there has been a growing literature looking at the impact and transmission of crises. The papers in this volume relate more closely to the former strand of literature.¹

The purpose of this introduction is to bring out the connections of the papers and to provide a context for understanding the relevance and importance of each

¹ For papers on the transmission of crises see e.g. Frankel and Saravelos (2010), Rose and Spiegel (2010), Bekaert et al. (2011).

paper's contribution.

However, before proceeding I would like to thank the sponsors of the conference, the Economic and Social Research Council (ESRC), *JIMF* in conjunction with The Frank J. Petrilli Centre for Research in International Finance at Fordham University and Cass Business School. Furthermore, I would like to thank all those, who have contributed to the success of the conference, the Programme Committee, discussants and referees, who helped with the selection of papers. However, my greatest thanks go to James R. Lothian, and Michael Melvin, the Editors of *JIMF*, whose advice was most valuable throughout the process and to Cornelia H. McCarthy, the Associate Editor, who oversaw the production of the Special Issue.

2. Financial Crises

Four papers were selected in this area, two of them examine the impact of crises on economic activity, the third one examines whether IMF lending increases the probability of debt crises, while the last one examines the impact of unexpected shocks related to the crisis on firm stocks.

Matthieu Bussière, Sweta C. Saxena and Camilo E. Tovar examine the impact on real output of currency collapses and provide new empirical evidence on this relationship of how these episodes affect growth and output trend. There is a theoretical ambiguity around the relative importance of different transmission mechanisms, which can operate in opposite directions, thus, settling this question becomes an empirical exercise. However, the existing empirical evidence has failed to provide conclusive evidence regarding this relationship.

The paper revisits the relationship between currency collapses and GDP and aims to investigate empirical regularities by using a large dataset for 108 emerging and developing economies over a long period of time, 1960-2006. It addresses the following questions. Conditional on a currency crash, (i) what are the output dynamics in the short-, medium- and long-run? and (ii) how robust is this relationship over time, across regions and exchange rate regimes? Bearing in mind that the definition of a currency collapse is controversial, the authors employ three definitions based on nominal exchange rate fluctuations to provide robust results. They also examine the dynamics of output when a large currency collapse persists, i.e. occurs consecutively in two years.

Their findings, which are summarized below shed light to the mixed evidence found in previous studies. Their main finding is that currency collapses are associated with a permanent output loss relative to trend, which is estimated to range between 2% and 6% of GDP. However, they show that such losses tend to materialize before the drop in the value of the currency, which suggests that the costs of a currency crash largely stem from the factors leading to it. Taken on its own (i.e. *ceteris paribus*), they find that currency collapses tend to have a positive effect on output. More generally, they also find that the likelihood of a positive growth rate in the year of the collapse is over two times more likely than a contraction, and that positive growth rates in the years that follow such episodes are the norm. Finally, they show that the persistence of the crash matters, i.e. one-time events induce exchange rate and output dynamics that differ from consecutive episodes.

Their results have policy implications. For example, since output was found to remain below trend for a long time, the question arises whether governments can implement policies do to close the output gap faster.

Davide Furceri and Aleksandra Zdzienicka examine also the impact of crises on output, however they look at debt crises. Given the current problems with sovereign debt in many countries the study is very topical. There are three main channels through which sovereign debt crises affect output: (i) exclusion from international capital markets; Gelos et al. (2011) show, countries were excluded from international capital markets for about four years on average after a sovereign default; (ii) an increase in the cost of borrowing; Borensztein and Panizza (2009) find that for 31 emerging market economies in the period 1997-2004, in the year after a sovereign default episode spreads increased by about 400 basis points compared to tranquil times; and (iii) through international trade; Rose (2005) finds a significant reduction in bilateral trade of approximately 8 percent per year following the occurrence of a sovereign default. In addition to these channels, debt crises can affect output indirectly by leading to banking and currency crises. The results of the empirical literature on the relation between sovereign default and growth have in general confirmed that debt crises may lead to significant output contractions.

The paper, analyzes the impact of debt crises on output both in the short and in the medium term. Using an unbalanced panel of 154 countries from 1970 to 2008, the authors show that debt crises produce significant and long-lasting output losses, reducing output by about 10 percent after 8 years. The results also suggest that debt crises tend to be more detrimental than banking and currency crises. The significance of the results is robust to different specifications, identification and endogeneity checks, and datasets.

In the third paper in the area of financial crises Markus Jorra explores empirically how the adoption of IMF programs affects sovereign risk over the medium term. The theoretical literature identifies four channels through which the

IMF's presence alters the probability of subsequent sovereign defaults. These channels focus on the direct effects of liquidity provision, its influence on the governments' adjustment effort and on the role of conditionality. While the specific characteristics of IMF lending programs affect sovereign risk in several ambiguous ways even less is known on the aggregate effect of program participation on the likelihood of sovereign debt crises. He investigates the IMF-default relationship empirically using univariate and bivariate probit methods and annual data for 57 developing and emerging economies over 1975 -2008, and finds that IMF programs significantly increase the risk of subsequent sovereign defaults by approximately 1.5 to 2 percentage points. These results cannot be attributed to endogeneity bias as they are supported by specifications that explain sovereign defaults and program participation simultaneously. Furthermore, IMF programs turn out to be especially detrimental to fiscal solvency when the Fund distributes its resources to countries whose economic fundamentals are already weak. The evidence is therefore consistent with the hypothesis that debtor moral hazard is most likely to occur in these circumstances. However, he does not find a default-risk reducing effect of IMF interventions in any of the specifications. Hence, he concludes that the adoption of an IMF program seems to be no good news at all for private long-term creditors. Regarding the policy implications of his findings, one important qualification has to be kept in mind before concluding that debt crises would become less likely in a world without IMF interventions. Since one important qualification has to be kept in mind before concluding that debt crises would become less likely in a world without IMF interventions. Since the pure existence of the IMF as a potential international lender of last resort may deter short-run creditors from running it is possible that the Fund has prevented several debt crises without being active. This possibility,

however, should not preclude the IMF from a thorough analysis of the question whether too many resources have been devoted to countries which view IMF lending as a substitute for, rather than a complement to policy reform.

In the last paper on financial crises, Charles W. Calomiris, Inessa Love, and María Soledad Martínez Pería examine the impact of three types of shocks related to the financial crisis of 2007-8, on the behaviour of firm level stock returns during the crisis. The three shocks are a sharp contraction in the supply of credit, distressed sales of risky assets as banks and investors scrambled to shore up their liquidity. They construct measures of firm-level sensitivity to each of the three categories of crisis shocks and then identify their relative contribution to the observed declines in equity returns. As a measure of sensitivity to global product demand shocks, they employ a measure of global trade exposure. The sensitivity to selling pressure is captured by the amount of trading in each stock prior to the crisis, and the firms' sensitivity to credit supply shocks through a combination of variables relating to the capital structure (leverage ratio), its dividend behavior (dividend to sales ratio), and the ability of the firm to cover its debt obligations (interest coverage).

They use data on over 16,000 firms in 44 countries, developed and emerging, from August 2007 to December 2008, and a methodology similar to that of Tong and Wei (2011) which employs a cross-sectional model of stock returns and captures expected returns with a standard set of control variables. In this framework, the sensitivities to shocks capture unexpected influences of crisis-related shocks on residual stock returns. They use values from 2006 to construct their measures of sensitivities, which are based on firm characteristics observed prior to the crisis. They then compare results for the crisis period with a similarly structured model of a placebo period that runs from August 2005 to December 2006 as well as with two

longer placebo periods spanning 5 and 10 years each, going back as far as 1997.

They find that returns' sensitivities to the three shocks imply large and statistically significant influences on residual equity returns during the crisis period (after controlling for normal risk factors that are associated with expected returns). Similar analysis for several placebo periods shows that these effects are generally less severe or absent in non-crisis periods.

Conducting separate estimations for developed and emerging countries they find that, relative to developed economies, emerging markets are more responsive to global trade conditions (in crisis and in placebo periods), but less responsive to selling pressures. This is to be expected as global demand sensitivity is higher in the emerging markets sample, because trade is more important for firms in emerging economies. On the other hand, the sensitivity to selling pressures is higher in the sample of developed countries, reflecting the fact that stock markets in developed countries tend to be more liquid than in emerging markets. Both developed and emerging markets display similar sensitivity of returns to credit-supply shocks, but the magnitudes differ.

3. Financial Markets

Two papers were selected in this area, which deal with different aspects of financial markets. In the first paper, Sohnke Bartram and Gordon Bodnar examine the importance of exchange rate exposure in the return generating process for a large sample of non-financial firms from 37 countries, including both developed and emerging market economies. Previous work has shown that the impact of exchange rate risk on stock returns is economically and statistically small in almost any sample. The paper argues, however that the effect of exchange rate exposure on stock returns is conditional and shows evidence of a significant return impact to firm level currency

exposures when conditioning on the exchange rate change. They further show that the realized return to exposure is directly related to the size and sign of the exchange rate change, suggesting fluctuations in exchange rates as a source of time-variation in currency return premia. For the entire sample the return impact ranges from 1.2 - 3.3% per unit of currency exposure. Moreover, the magnitude is larger for firms in the emerging markets compared to developed markets, reaching nearly 8% per unit of exposure for local currency depreciations and - 5.5% per unit exposure for local currency appreciations. Furthermore, these results are robust to a number of variations in methodology and sample definitions (e.g. it persists even after excluding the effects of financial crises that some of these countries experienced, excluding periods of fixed exchange rates (such as the Euro for some countries), excluding the United States as the country with the largest number of firms in the sample, and using local or global market indices as control variables).

Given the increasing trend of globalization of business activities, these results have important implications for asset pricing, corporate finance and risk management. They suggest that investors should be aware of the fact that exchange rates are an important risk factor for firms and that this risk factor translates into non-trivial conditional return premia in most cases. While exchange rate changes are close to random, the impact of exchange rates on firm returns is unconditionally close to zero. However, the estimates of exchange rate exposure and the realization of the exchange rate index have consistent and predictable impacts on returns. From an economics standpoint, the paper demonstrates that exchange rate exposure is an important, systematic variable in the return generating process. While the impact of exchange rates on returns could in principle stem from an effect on the firms' cash flows or discount rate, we show that the effect of exchange rate risk on stock returns must

predominantly, if not exclusively, be an effect on the cash flows of a firm.

In the second paper Kalok Chan and Vicentiu Covrig examine the well researched issue of home bias, but from a different angle. They examine how often investors rebalance their domestic and foreign holdings and whether home bias affects the trading turnover of foreign holdings. The results of previous studies are mixed. Based on cross border capital flows in five Organisation for Economic Co-operation and Development (OECD) countries, Tesar and Werner (1995) find that the turnover rate in foreign equities is 10 times greater than that in domestic equities. On the other hand, Warnock (2002) using data on gross transactions in foreign equities available from the United States and Canada, finds that investors turn over their foreign portfolios only slightly faster than their domestic portfolios. Nevertheless, both studies are confined to a few developed countries, and do not provide a cross-country comparison of trading in foreign equities.

In contrast, Kalok Chan and Vicentiu Covrig employ a rich and interesting dataset that contains the equity holdings of mutual funds from 29 countries, with a breakdown of their annual portfolio composition across 48 countries from 1999 to 2006. Using stockholding data recorded on an annual basis, they compute the portfolio churn rates based on changes in equity holdings in consecutive years. For each mutual fund, they calculate a churn rate for each country in which the fund is invested. They find that the average churn rate of domestic equities is lower than that of foreign equities, which confirms the findings of Tesar and Werner (1995). The authors then go on to examine the potential determinants of mutual fund churn rates across different foreign countries, and in particular, whether information asymmetry and familiarity, the two effects that have been shown to affect the holdings of foreign equities in the global portfolio, affect the frequency of rebalancing foreign securities.

In the case of information asymmetry, foreign investors are discouraged from investing abroad because they have less information than do locals about domestic securities, whereas a lack of familiarity with a foreign market also discourages investors from investing in that market. Although familiarity is related to information asymmetry, evidence indicates that it is psychologically based, as investors are influenced by language and culture, geographical proximity, and immigrant origin.

The major findings of the paper are that the churn rates are higher for the stocks of companies located in countries that have more asymmetric information and are less familiar to fund managers, which represent new set of results in international finance. The effect of familiarity is especially interesting because it extends previous U.S. studies that document that the length of time that investors hold stocks depends on how much they know about them. For example, Coval and Moskowitz (2001) report that U.S. fund managers trade far more frequently in their distant holdings than in their local holdings. They also find the mutual fund churning is higher in countries that are less developed and have weaker investor protection.

4. Foreign exchange markets

The three papers in the area of foreign exchange markets look at three different issues, which nonetheless all have important policy implications. In the first paper Raphael Brun-Aguerre, Ana-Maria Fuertes and Kate Phylaktis provide a systematic empirical investigation, both in-sample and out-of-sample, of the ability of macro- and microeconomic factors to predict import pass-through. The reaction of import prices to changes in the exchange rate has been the subject of a vast literature which has evolved from industrial organization issues to debates over appropriate exchange rate regimes and monetary policy optimality in general equilibrium models. They bring to the forefront the role of protectionism and nonlinearity in the form of a

sign effect (i.e. asymmetry between appreciations and depreciations) and a size effect (i.e. asymmetry between large and small exchange rate changes). Both aspects, protectionism and nonlinearity, are to-date not very common features in empirical pass-through studies. The large exchange rate fluctuations and increase in protectionism observed in the wake of the recent global financial crisis provide a noteworthy motivation, which has been paid scant attention so far in the literature. By exploiting both the cross-section variation and the dynamics of pass-through rates via panel models they can control for unobserved country- or time-specific effects which is not feasible in a cross-section framework. They also depart from most existing studies in exploiting a large sample over the period 1980Q1- 2009Q3 for 37 countries, emerging and developed, and in employing an effective export price measure which is a trade-weighted average of national export unit value indices, which gives more precise estimates of pass through.

Their evidence does not support the notion that import pass-through has been universally falling in developed markets nor that it is far greater in emerging markets; thus the pricing power of the latter may have been understated. These findings have implications for debates on exchange rate regime optimality in general equilibrium models. Both macro and micro factors play a role as pass-through drivers. Exchange rate volatility and inflation stand out in terms of the economic magnitude of their impact which highlights the importance of accounting for such endogeneity in the design of monetary policy. Relative wealth and the ratio of total imports to the ratio of total imports to domestic output net of exports appear significantly influential as well. The evidence suggests that the extent of pass-through differs for small and large exchange rate changes. Domestic regulatory policies (tariffs) have relatively large predictive power both in- and out-of-sample, and there is a nexus between the country

business-cycle stage and the pass-through rate. Overall this study relatively succeeds at explaining the overall country and time variation in pass-through rates with macro- and micro-economic factors of the importing economy. However, about 2/3 of the total variation remains unexplained and it is mostly due to unobserved country-specific factors. Hence, more theoretical breakthroughs may be needed and/or better proxies for existing ones in order to explain the phenomenon of pass-through into prices.

In the second paper in the area of foreign exchange markets, Rasha Alsakka, and Owain ap Gwilym, analyse market foreign exchange market reactions to sovereign credit news by three credit rating agencies(CRAs): Fitch, Moody's and Standard & Poor's over the period 1994-2010. The authors' argument is that the FX market is the channel through which equity prices and sovereign credit signals are linked. (CRAs) play a central role in international financial markets through disclosing credit information, not only via rating changes but also via outlook and watch actions. While rating changes communicate permanent changes in issuer credit quality, credit outlook and watch are supplemental.

The authors using daily data examine how the foreign exchange spot market reacts to credit events for 124 developed and emerging economies, and also investigate spillover effects (i.e. the impact on other countries' exchange rates). Investors pay close attention to sovereign ratings when investing capital in emerging countries. Credit risk changes are more frequent in emerging economies and large changes can occur quickly and unpredictably. They examine relative CRA reputations, by investigating whether sovereign credit signals released by a particular CRA have a stronger influence than those of other CRAs. They also analyse whether any information lead of one CRA relates to specific type of signals, and whether it is

evident for developed and/or emerging economies.

The study contributes to the existing literature on the market impact of credit ratings in the following respects. First, while prior studies on the information content of sovereign ratings have considered equity and bond markets and currency crises, the literature offers little evidence on foreign exchange market reactions. Second, the study provides evidence on both national and regional spillover effects of sovereign credit signals. Third, whereas prior research on CRAs' actions has mainly centered on rating changes, they investigate the relative impact of rating changes, outlook signals and watch events. Fourth, they extend the methodology previously applied in the literature on the information content of ratings by employing a logit-type transformation of the numerical-rating scale to account for non-linearity. Finally, there has been little prior empirical analysis of the relative information content of the credit signals of different CRAs.

They find that positive and negative credit news affects both the own-country exchange rate and other countries' exchange rates. They provide evidence on unequal responses to the three agencies' signals. Fitch signals induce the most timely market responses, and the market also reacts strongly to S&P negative outlook signals. Credit outlook and watch actions and multiple-notch rating changes have more impact than one-notch rating changes. Considerable differences in the market reactions to sovereign credit events are highlighted in emerging versus developed economies, and in various geographical regions.

In the final paper in the foreign exchange markets area, Michael Moore and Maurice Roche investigate empirically one of the key puzzles in international finance, namely the forward "bias" puzzle. They provide empirical evidence, for a modelling strategy, which makes substantial progress towards explaining why the forward bias

puzzle only arises between some pairs of countries and not for others. The model is based on Moore and Roche (2010), which combines Campbell and Cochrane (1999) habit persistence defined over individual goods in a monetary framework, which identifies two different forces at work. Where monetary policy is stable, interest rates are primarily determined by real behaviour. In those circumstances, the importance of the precautionary savings motive ensures that the forward bias typically arises. This is why uncovered interest parity is not usually observed between developed countries. In contrast, in countries where monetary volatility dominates, something closer to interest parity is observed because nominal bond holders have to be compensated for the nominal volatility. Monetary volatility is defined as high conditional variance for money growth. They calibrate this model to 13 developed and 29 emerging economies. They are successfully able to explain when UIP holds and does not hold without referring explicitly to the income, inflation rate nor level of development of the countries concerned.

5. Finance and growth

In the final paper in this Special Issue, Sheng Xiao and Shan Zhao, examine how financial development affects firm innovation around the world. Economists have identified two main channels through which financial development impacts on economic growth: total factor productivity and capital accumulation. Despite the abundant macroeconomic evidence, however, microeconomic evidence that identifies these channels is surprisingly lacking. Sheng Xiao and Shan Zhao fill up this gap by, examining the effects of financial development on firm innovation, which is the key source of growth in total factor productivity growth, is the “ultimate source of long-run economic growth” (Jorgenson, 2005). They use a new World Bank Investment

Climate Survey dataset collected from over 28,000 firms in 46 countries between 2002 and 2005.

They find that while stock market development significantly enhances firm innovation, banking sector development has mixed effects. They show that the latter result can be explained by different levels of government ownership of banks. Specifically, in countries with lower government ownership of banks, banking sector development significantly enhances firm innovation; while in countries with higher government ownership of banks, banking sector development has no significant or sometimes even significantly negative effects on firm innovation. Furthermore, such negative impact of government ownership of banks is significantly stronger for smaller firms. The results are robust to various controls such as firms' human capital and ownership structure, and to estimation using instrumental variable techniques and to alternative measures of firm innovation."

Their results are not good news for the current climate of substantial government support for the banks. Although, the motives for government support are different from the motives of governments in emerging markets in the past, which were to direct loanable funds to preferred customers and industries, the impact on firm innovation and growth will be the same. The evidence provided in this study supports La Porta et al. (2002), which offers evidence that higher levels of government ownership of banks are associated with slower subsequent growth in a country's per capita income and productivity.

6. Conclusion

The papers in this Special Issue have discussed some of the key areas in Emerging-Markets Finance. Since the publication of the two previous *JIMF* Special

Issues on Emerging-Market Finance in May 2006 and 2008, the focus of papers has shifted from investigating the impact of liberalization and poor corporate governance on financial decisions and the economy to the impact of financial crises. That reflects the severity of financial crises in a globalised world. It is hoped that the topics in this volume will prove of interest not only to researchers, but also to practitioners and regulators.

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References

- Bekaert, G., Ehrmann, M., Fratzscher, M. and Mehl, A. 2011. "Global Crises and Equity Market Contagion." WP.
- Borensztein, E., and Panizza, U. 2009. "The Costs of Sovereign Default." IMF Staff Papers, 56(4), 683-741.
- Coval, J., Moskowitz, T.J., 2001. The geography of investment: Informed trading and asset prices. *Journal of Political Economy* 109, 811-841.
- Frankel, J. A. and G. Saravelos, 2010, "Are Leading Indicators of Financial Crises Useful for Assessing Country Vulnerability? Evidence from the 2008-09 Global Crisis," NBER Working Papers 16047.
- G. Gelos, Sahay, R. and Sandleris, G. 2011. "Sovereign Borrowing by Developing Countries: What Determines Market Access?" *Journal of International Economics* 83(2), 243-254.
- Jorgenson, D., 2005. Accounting for growth in the information age, in: Aghion, P., Durlauf, S. (Eds.), *Handbook of Growth Economics*. Elsevier Science, Amsterdam, pp. 743-815.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2002. "Government ownership of banks". *Journal of Finance* 57, 265-301.
- Rose, A., 2005. "One reason countries pay their debts: renegotiation and international trade", *Journal of Development Economics*, 77(1), 189-206.
- Rose, A., Spiegel, M., 2010. Cross-country causes and consequences of the 2008 crisis: international linkages and American exposure. *Pacific Economic Review*, 15 (3), 340-363.
- Tesar, L., Werner, I., 1995. Home bias and high turnover, *Journal of International Money and Finance* 14, 467-492.
- Tong, H. Wei, S.J., 2011. "The composition matters: capital flows and liquidity constraint during a global economic crisis. *Review of Financial Studies* 24(6), 2023 - 2052.
- Warnock, F., 2002. "Home bias and high turnover reconsidered". *Journal of International Money and Finance* 21, 795-805.